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Yields of the Field Experiments 1983

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83/R/BE/8 Control of Stem Nematode - W. Beans

Rothamsted Research

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83/R/BE/8

WINTER BEANS

CONTROL OF STEM NEMATODE

Object: To study the effects of a range of chemicals, rates and times of application on the control of stem nematode (Ditylenchus dipsaci) and on the yield of w. beans - Highfield O and E III.

Sponsor: A.G. Whitehead.

Design: 3 randomised blocks of 12 plots.

Whole plot dimensions: 2.29 x 4.57.

Treatments:

NEMACIDE — Nematicides, rates and times of application:

	Applied in the furrow at sowing		Top-dressed after emergence
NONE	None		None (duplicated)
AL1+AL1	Aldicarb at 1.17 kg	+	aldicarb at 1.25 kg
AL2+AL2	Aldicarb at 2.34 kg	+	aldicarb at 2.5 kg
AL4+AL4	Aldicarb at 4.68 kg	+	aldicarb at 5.0 kg
AL2+TH2	Aldicarb at 2.34 kg	+	thiabendazole at 2.5 kg
AL2+TH4	Aldicarb at 2.34 kg	+	thiabendazole at 5.0 kg
CA2+TH2	Carbofuran at 2.38 kg	+	thiabendazole at 2.5 kg
CA2+TH4	Carbofuran at 2.38 kg	+	thiabendazole at 5.0 kg
CA1+CA1	Carbofuran at 1.19 kg	+	carbofuran at 1.25 kg
CA2+CA2	Carbofuran at 2.38 kg	+	carbofuran at 2.5 kg
CA4+CA4	Carbofuran at 4.76 kg	+	carbofuran at 5.0 kg

NOTES: (1) To ensure the presence of stem nematode, infested straw was spread on the site and ploughed in.
(2) Thiabendazole was applied in 7,650 l water.
(3) Post emergence treatments were applied to w. beans on 25 May, 1983

Basal applications: Manures: (0:20:20) at 630 kg. Weedkillers: Simazine at 1.1 l in 560 l. Fungicide: Benomyl at 0.56 kg in 560 l, on two occasions, with the insecticide on the second. Insecticide: Pirimicarb at 0.14 kg on three occasions, with the fungicide on the first, in 560 l on the second and third.

Seed: Throws MS, sown at 240 kg.

Cultivations, etc.:- PK applied, infested straw applied, ploughed in: 17 Aug, 1982. Rotary harrowed, seed sown: 11 Nov. Weedkiller and fungicide applied: 4 Feb, 1983. Fungicide with insecticide applied: 10 June. Insecticide applied: 30 June, 19 July. Harvested by hand: 3 Aug. Previous crops: S. beans 1981, w. beans 1982.

NOTE: The percentage of stems infested with stem nematode was assessed in July.

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83/R/BE/8

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

NEMACIDE	
NONE	0.81
AL1+AL1	1.30
AL2+AL2	1.78
AL4+AL4	2.21
AL2+TH2	1.45
AL2+TH4	1.71
CA2+TH2	1.86
CA2+TH4	1.67
CA1+CA1	2.14
CA2+CA2	2.44
CA4+CA4	2.80
MEAN	1.75

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	NEMACIDE	
SED	0.367	MIN REP
	0.318	MAX-MIN

	NEMACIDE
MAX-MIN	NONE V ANY OF THE REMAINDER
MIN REP	ANY OF THE REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	23	0.449	25.7

GRAIN MEAN DM% 78.6

PLOT AREA HARVESTED 0.00035

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